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10/655,881	09/06/2003	Karl Gierachf	19001/003	7183

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EXAMINER

BRINEY III, WALTER F

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 04/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/655,881

Applicant(s)

GIERACHF, KARL

Examiner

Walter F Briney III

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-12 and 14-18 is/are rejected.
- 7) ☒ Claim(s) 4 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 1-3, 5-7, 10-12, 14, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien (US Patent 6,601,031) in view of Krack (US Patent Application Publication 2003/0021394).**

Claim 1 is limited to *a voice command (VC) to dual tone multi-frequency (DTMF) interfacing system*. O'Brien discloses a speech recognition front-end controller to voice mail systems. See Abstract. In general, the system (40) of O'Brien, as depicted in figure 3, converts voice commands input by a telephone user (2) into appropriate DTMF commands associated with corresponding functions of a voice mail system (5). The speech recognition system (4) includes means for performing conversion or *translation*. However, O'Brien is silent concerning transmission details, focusing mostly on the speech to DTMF conversion. Therefore, O'Brien anticipates all limitations of the claim with the exception of a *first and second echo canceller*.

Krack teaches a system similar to O'Brien, as seen in figure 1. Krack further teaches that echo effects the operation of the system because messages from the voice mail system can be reflected and misinterpreted as commands to the speech recognizer and spoken commands from a user can be reflected creating the annoyance of hearing

one's own voice reflected back. See paragraph 41. In solution, Krack performs echo cancellation on both channels, inherently requiring a *first* and *second echo canceller*.

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a first and second echo canceller as taught by Krack for the purpose of removing reflections that cause unintentional voice recognition commands to be executed and annoying echo.

Claim 2 is limited to *the system according to claim 1*, as covered by O'Brien in view of Krack. As is clearly seen from figure 3, the speech recognition system (40) includes an ASR/DTMF detect module that corresponds to a *first port* and a DTMF out module along with a hairpin connection path that corresponds to a *second port*. Therefore, O'Brien in view of Krack makes obvious all limitations of the claim.

Claim 3 is limited to *the system according to claim 2*, as covered by O'Brien in view of Krack. As stated in column 2, lines 11-13, the system of O'Brien does not implement a standard hairpin connection since the speech recognition system maintains control over the connection. In particular, the speech recognition selectively couples and decouples the speech path of the telephone user (2) from the voice mail system (5), as shown in step 11 of figure 6, when the user wishes to directly communicate with the voice mail system, i.e. the speech recognition serves as a *port patch for connecting the first port directly to the second port in a second mode*. Therefore, O'Brien in view of Krack makes obvious all limitations of the claim.

Claim 5 is limited to *the system according to claim 3*, as covered by O'Brien in view of Krack. As seen in steps 13 and 14, the system of O'Brien is responsive to a

predetermined DTMF symbol entered by the telephone user (2). The DTMF symbol causes the speech recognition system to decouple the voice path between the user (2) and voice mail system (5), i.e. *switch to the first mode*. Therefore, O'Brien in view of Krack makes obvious all limitations of the claim.

Claim 6 is limited to *the system according to claim 3*, as covered by O'Brien in view of Krack. As shown above in the rejection of claim 5, O'Brien discloses means to receive a DTMF signal at the speech recognition system (40) from the telephone user (2), and because the speech path of the user (2) is connected directly to a voice mail system in a *second mode*, DTMF codes are forwarded directly from the user (2) to the voice mail system (5), i.e. *forward DTMF codes to the DTMF-driven system when voice commands are not used*. Therefore, O'Brien in view of Krack makes obvious all limitations of the claim.

Claim 7 is limited to *the system according to claim 3*, as covered by O'Brien in view of Krack. Figure 6 depicts forwarding user speech directly to the voice mail system (5) when the user wishes to record a message in the voice mail system (steps 11-13), i.e. *during the second mode, the audio is a voice message to be stored in a voice mailbox of the DTMF-driven system*. Previous steps 1-9 illustrate the method of retrieving a previously stored message from the voice mail system (5), i.e. *during the first mode, the voice message stored in the voice mailbox can be retrieved*. Therefore, O'Brien in view of Krack makes obvious all limitations of the claim.

Claims 10-12, 14 and 16 recite essentially the same limitations as claims 1-3, 5, and 7, respectively, and are rejected for the same reasons.

2. Claims 8, 9, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Brien in view of Krack and further in view of Kelly (US Patent Application Publication 2004/0218737).

Claim 8 is limited to *the system according to claim 1*, as covered by O'Brien in view of Krack. Clearly illustrated in figure 3 of O'Brien is an automatic speech recognition detector, labeled ASR/DTMF DETECT. While O'Brien further depicts the DTMF OUT module in figure 3, there is no discussion concerning its method for generating DTMF signals. Therefore, O'Brien in view of Krack makes obvious all limitations of the claim with the exception of *a plurality of audio files, each audio file corresponding to a DTMF tone*.

Kelly teaches a telephone system that includes an IVR that includes a DTMF generator for provisioning communication between multiple telecommunication elements. See Abstract as well as paragraph 126. The system suggested by Kelly simply plays prerecorded DTMF tones that are stored in separate files to a telecommunication device in response to a request received from a call initiator. This situation clearly corresponds to the system of O'Brien where a caller (2) contacts the speech recognition system (40) in order to communicate with the voice mail system (5). As such, the DTMF generator of Kelly is equally applicable to the system of O'Brien. Furthermore, the DTMF generator of Kelly is clearly implemented using a digital processor, allowing integration with existing components. Because Kelly stores each DTMF in separate files, *plural files* must inherently be played in order to command the

voice mail system (5) of O'Brien in response to a user's input, i.e. *a distinct ordered combination of the plurality of audio file is associated with each voice command.*

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a digital DTMF generator as taught by Kelly because O'Brien fails to disclose the structure of a DTMF generator and because the digital DTMF generator of Kelly can be integrated using only software, reducing the overhead of peripheral processors.

Claim 9 is limited to *the system according to claim 9*, as covered by O'Brien in view of Krack. Clearly, the DTMF generator taught by Kelly corresponds to a *DTMF audio file player*. Therefore, O'Brien in view of Krack and further in view of Kelly makes obvious all limitations of the claim.

Claims 17 and 18 recite essentially the same limitations as claims 8 and 9 respectively, and are rejected for the same reasons.

3. **Claims 10, 11, and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Gupta et al. (US Patent Application Publication 2002/0090066) in view of Krack.

Claim 10 is limited to *a method of interacting with a dual tone multi-frequency (DTMF) driven system with voice commands*. Gupta discloses a voice-operated interface for DTMF-controlled systems. See Abstract. In general, Gupta - like O'Brien - converts speech from a telephone user into DTMF codes for controlling a DTMF controlled system, which corresponds to the *translation* step of the instant claim. Also like O'Brien, Gupta fails to disclose various transmitting characteristics of the system.

Therefore, Gupta anticipates all limitations of the claim with the exception of *echo canceling both a received voice command and an audio output*.

Krack teaches a system similar to Gupta, as seen in figure 1. Krack further teaches that echo effects the operation of the system because messages from the voice mail system can be reflected and misinterpreted as commands to the speech recognizer and spoken commands from a user can be reflected creating the annoyance of hearing one's own voice reflected back. See paragraph 41. In solution, Krack performs echo cancellation on both channels, inherently requiring a *first and second echo canceller*.

It would have been obvious to one of ordinary skill in the art at the time of the invention to implement a first and second echo canceller as taught by Krack for the purpose of removing reflections that cause unintentional voice recognition commands to be executed and annoying echo.

Claim 11 is limited to *the method according to claim 10*, as covered by Gupta in view of Krack. Gupta discloses that a call initiation is first received from a user (12) at the speech server (14). The server establishes connection between a DTMF-controlled system (24) or (28) and then bridges the calls together. See paragraphs 16 and 18. It follows that the server inherently includes a *first and second port* for supporting two bridged connections. Therefore, Gupta in view of Krack makes obvious all limitations of the claim.

Claim 15 is limited to *the method according to claim 11*, as covered by Gupta in view of Krack. The system of Gupta allows the user to speak with the DTMF-controlled system so that the user can, for example, record a voice message within a voice mail

system. In addition, the system is constantly responsive to voice commands, such that any isolated occurrence can be decoded as a command, i.e. *a predetermined keyword, in the second mode, from the caller to disable the port patch.* See paragraph 25.

Therefore, Gupta in view of Krack makes obvious all limitations of the claim.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

Claims 4 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 4 is limited to *the system according to claim 3*, as covered by O'Brien in view of Krack. The system of O'Brien, as seen in figures 6 and 7, is responsive only to user input, such that there can be no *tone detector for detecting a tone...from the DTMF-driven system.*

Wesemann teaches an enhancement for voice-to-DTMF systems, where a user input that is not valid for a current state of the DTMF-responsive system is translated into a string of DTMF commands that will navigate the DTMF-responsive system until reaching the state where the current user command is valid. The system relies on state changes reported from the DTMF-responsive system, as seen in step 540 of figure 5, however, there is no particular suggestion to include a tone detector for merely detecting a tone from the DTMF-responsive system. Even if it were obvious to one of ordinary skill in the art to combine O'Brien and Krack with Wesemann, their combination

would still fail to meet the claimed structure of the instant claim. Thus, claim 4 is allowable over O'Brien in view of Krack and further in view of Wesemann.

Claim 13 recites essentially the same limitations as claim 4, and is allowable over O'Brien in view of Krack and further in view of Wesemann for at least the same reasons.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F Briney III whose telephone number is 571-272-7513. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WFB

Application/Control Number: 10/655,881

Page 10

Art Unit: 2644

3/29/05

A handwritten signature in black ink, appearing to read 'Sinh Tran', with a long horizontal stroke extending to the right.

SINH TRAN
SUPERVISORY PATENT EXAMINER